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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/538,489      | 06/09/2005  | Murray Figov         | 91255MGB            | 7114             |

1333 7590 03/22/2007  
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| EXAMINER |
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ZIMMERMAN, JOSHUA D

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2854

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 03/22/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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|------------------------------|--|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/538,489   | <b>Applicant(s)</b><br>FIGOV, MURRAY |  |
|                              | <b>Examiner</b><br>Joshua D. Zimmerman | <b>Art Unit</b><br>2854              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 40-59 and 61-71 is/are pending in the application.
- 4a) Of the above claim(s) 62-68 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 40-59, 61 and 69-71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 40, 41, 43-47 and 49-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukino et al. (EP 1 057 622 A2).

Regarding claim 40, Fukino et al. disclose “a lithographic printing blank comprising a coating deposited from aqueous fluid onto a substrate (abstract), the coating comprising:

polyvinyl alcohol (paragraph 165, paragraph 246);

polyacrylic acid (paragraph 165, paragraph 246);

hydrophobic water-based emulsion with pH of 7 or below (paragraph 267);

aminoplast (paragraph 247); and

at least one wetting agent (paragraph 267).”

Regarding claim 41, Fukino et al. further disclose “wherein the coating is hydrophilic (abstract).”

Regarding claim 43, Fukino et al. further disclose “wherein the aminoplast is a urea-formaldehyde resin (paragraph 247).”

Regarding claim 44, Fukino et al. further disclose "wherein the hydrophobic water-based emulsion has one of a phenol formaldehyde (paragraph 266) and an acrylic polymer or copolymer as its internal phase (paragraph 268)."

Regarding claim 45, Fukino et al. further disclose "wherein the coating has a dry coating weight between 1 gram per square meter and 4 grams per square meter (paragraph 284)."

Regarding claim 46, Fukino et al. further disclose "wherein the polyacrylic acid is present at between 20% and 60% of the dry coating weight (paragraph 165)."

Regarding claim 47, Fukino et al. further disclose "wherein the polyvinyl alcohol is present at between 1% and 15% of the dry coating weight (paragraph 165)."

Regarding claim 49, Fukino et al. further disclose "wherein the wetting agent comprises silicone surfactant (paragraph 319)."

Regarding claim 50, Fukino et al. further disclose "wherein the at least one wetting agent is present at between 0.5% and 7% of the dry coating weight (paragraph 277)."

Regarding claim 51, Fukino et al. further disclose "wherein the aminoplast is present at not more than 10% of the dry coating weight (paragraph 269)."

Regarding claim 52, Fukino et al. further disclose "wherein the aminoplast is present at between 10% and 20% of the dry coating weight (paragraph 269)."

Regarding claim 53, Fukino et al. further disclose "wherein the substrate comprises one of untreated aluminum (paragraph 288), aluminum treated with phosphoric acid (paragraph 299), and anodized aluminum (paragraph 292)."

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 48 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukino et al.

Regarding claim 48, Fukino et al. teach all that is claimed, but fail to disclose "wherein the hydrophobic water-based emulsion is present at between 25% and 55% of the dry coating weight." However, Fukino et al. teach a range of concentrations in paragraph 269, and further teach that the emulsions are added to control the degree of hydrophilicity of the coating (paragraph 266). Further, Fukino et al. teaches ranges of concentrations for all of the components in the layer (see, e.g., paragraphs 272, 165, 270), suggesting that varying the concentrations of the various components is not only feasible, but encouraged. Therefore, it would have been obvious to one having ordinary skill in the art, through routine experimentation, to choose a concentration of hydrophobic water-based emulsion between 25% and 55% of the dry coating weight in order to optimize the hydrophilicity.

Regarding claim 71, Fukino et al. teach all that is claimed, but fail to specifically exclude "a crosslinking catalyst for the aminoplast." However, the catalysts listed by Fukino et al. (paragraph 248) are not necessarily used for crosslinking an aminoplast.

Furthermore, the catalysts listed are listed as being optional (paragraph 247, 248), and therefore the case where catalysts are absent is possible. Regardless, one having ordinary skill in the art would recognize that catalysts for aminoplasts are not necessary to crosslink the aminoplasts, and would have been motivated to exclude them in order to lower the cost of the printing plate.

3. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukino et al. as applied to claim 40 above, in view of Hallman et al. (US 5,820,932).

Regarding claim 42, Fukino et al. teach all that is claimed, but fail to teach that "the coating is oleophilic." However, Hallman et al. teach the desire and ability to reverse the hydrophilicity of the printing plate coating (column 4, lines 45-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to change the hydrophilicity of the coating in order to meet the needs of the print job, such as when water-based ink is desired to be printed.

4. Claims 54-56, 59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukino et al. in view of Kawamura (US 2001/0019760) and Touhsaent (US 6,444,750).

Regarding claim 54, Fukino et al. teach "a method of preparing a lithographic printing plate (title), comprising the steps of:

providing a printing blank comprising a coating deposited from aqueous fluid onto a substrate, the coating comprising:

polyvinyl alcohol (paragraphs 165 and 246);

polyacrylic acid (paragraphs 165 and 246);

hydrophobic water-based emulsion with pH of 7 or below (paragraph 267);

aminoplast (paragraph 247); and

at least one wetting agent (paragraph 267)."

Fukino et al. lack the "depositing an ink-jet ink onto said coating in the form of an image, whereby the imaged areas of said coating acquire oleophilic or hydrophilic properties which are opposite to the oleophilic or hydrophilic properties of said printing blank."

Kawamura teaches a method of forming an imaged printing plate wherein the hydrophilic surface is switched to hydrophobic by application of a catalyst via inkjet (paragraphs 83 and 84). The plate produced by the method of Kawamura doesn't undergo development, thus saving time in the printing process.

Further, Touhsaent teaches a method of making a polyvinyl alcohol coating hydrophobic by crosslinking with urea formaldehyde in the presence of an acid catalyst (column 1, lines 15-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply an acid catalyst via inkjet to the printing plate and coating of Fukino et al. in order to make the coating hydrophobic in the imaged areas, as taught

by Touhsaent, in order to make a printing plate that does not require development, as taught by Kawamura, in order to save time in the printing process.

Regarding claim 55, Touhsaent further teaches heating in order to further crosslink the coating (column 5, lines 5-8).

Regarding claim 56, Touhsaent further teaches that the surface becomes hydrophobic, thus making a hydrophobic image when the acid catalyst is applied to the surface (column 1, lines 15-25).

Regarding claim 59, Touhsaent and Kawamura teach "wherein the ink-jet ink contains a water-soluble ingredient (the acid catalyst is water-soluble) which switches the coating from being hydrophilic to oleophilic (column 1, lines 15-25 of Touhsaent)."

Regarding claim 61, Fukino et al. further teach "wherein the substrate comprises one of aluminum treated with phosphoric acid and anodized aluminum (paragraphs 292 and 299)."

Claims 57-58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukino et al. in view of Kawamura (US 2001/0019760) and Touhsaent (US 6,444,750), as applied to claim 54 above, further in view of Deutsch et al. (US 2002/0054981) and Tashiro et al. (US 5,556,583).

Regarding claim 57, Fukino et al., Kawamura and Touhsaent fail to teach "wherein the ink-jet ink contains a microencapsulated pigment." However, Deutsch et al. teach the addition of an indicator into the ink in order that the imaged area can be identified (paragraph 37).



Tashiro et al. teach the encapsulation of ink jet pigments in order to create a more durable image (column 2, lines 17-25).

Therefore, it would have been obvious to one having ordinary skill in the art to incorporate encapsulated pigments in the inkjet ink in order to be able to identify the imaged areas, as taught by Deutsch et al., and so that the imaged areas are durable, as taught by Tashiro et al.

Regarding claim 58, the encapsulated pigment contains in its capsule a polymer binder.

5. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukino et al. in view of Kawamura (US 2001/0019760) and Touhsaent (US 6,444,750).

Fukino et al. teach a method of preparing a lithographic printing plate (title), comprising the steps of:

“providing a printing blank comprising a coating deposited from aqueous fluid onto a substrate, the coating comprising:

polyvinyl alcohol (paragraphs 165 and 246);

polyacrylic acid (paragraphs 165 and 246);

hydrophobic water-based emulsion with pH of 7 or below (paragraph 267);

aminoplast (paragraph 247); and

at least one wetting agent (paragraph 267).”

Fukino et al. lack the “depositing aqueous ink-jet ink onto said coating in the form of an image, whereby the imaged areas of said coating acquire oleophilic or hydrophilic

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properties which are opposite to the oleophilic or hydrophilic properties of said printing blank.”

Kawamura teaches a method of forming an imaged printing plate wherein the hydrophilic surface is switched to hydrophobic by application of a catalyst via inkjet (paragraphs 83 and 84). The plate is then used “in a wet-lithographic printing press to produce printed impressions (paragraph 84).” The plate produced by the method of Kawamura doesn't undergo development, thus saving time in the printing process.

Further, Touhsaent teaches a method of making a polyvinyl alcohol coating hydrophobic by crosslinking with urea formaldehyde in the presence of an acid catalyst (column 1, lines 15-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply an acid catalyst via inkjet to the printing plate and coating of Fukino et al. in order to make the coating hydrophobic in the imaged areas, as taught by Touhsaent, in order to make a printing plate used in a wet-lithographic printing press that does not require development, as taught by Kawamura, in order to save time in the printing process.

6. Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukino et al. in view of Kawamura (US 2001/0019760) and Touhsaent (US 6,444,750), as applied to claim 69 above, further in view of applicant's admitted prior art (AAPA).

Regarding claim 70, AAPA teaches using a switchable polymer on a plate substrate that is a plate cylinder that is reused after a printing run (page 10, lines 6-11

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off applicant's specification). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a plate cylinder as a substrate for the coating in order to save money by reusing the substrate.

### ***Response to Arguments***

Applicant's arguments filed 12/18/2006 have been fully considered but they are not persuasive.

7. Applicant argues that Fukino et al. do not teach using both polyvinyl alcohol and polyacrylic acid in combination in paragraph 246. However, the rejection also cited paragraph 165, which teaches using either of these compounds as well. Therefore, both compounds would be included, and would be used in combination.

8. Applicant's argument that applicant's invention is different than that of Fukino et al. is moot since applicant's claimed invention is anticipated by Fukino et al. as outlined above.

9. Applicant's argument that Hallman et al. do not teach a permanent layer is also moot, since applicant does not claim such a limitation. Said argument is further moot because Hallman et al. is relied upon merely for teaching reversing the hydrophilicity of the printing plate coating in order to meet the needs of the print job.

10. Applicant's argument that Touhsaent does not teach hydrophobic properties of a polyvinyl coating is also unpersuasive. Applicant admits that Touhsaent teaches that the 'coating can be made resistant to attack by fountain solutions (last full paragraph of page 10 of applicant's reply).' Further, the examiner-cited section of Touhsaent (column

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1, lines 15-25) clearly teaches that the sensitivity of the coating to moisture is changed. This inherently means that the hydrophilicity is changed. Further, one having ordinary skill in the art would recognize that making a coating more resistant to attack by fountain solutions, as applicant admits is taught by Touhsaent, especially when accomplished by crosslinking polyvinyl alcohol, would necessarily mean a fundamental change in the hydrophilic characteristics of the coating, since fountain solutions are mainly water.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Zimmerman whose telephone number is 571-

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272-2749. The examiner can normally be reached on M-R 8:30A - 6:00P, Alternate Fridays 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua D Zimmerman  
Examiner  
Art Unit 2854

jdz

  
**JUDY NGUYEN**  
**SUPERVISORY PATENT EXAMINER**